

Metabolomics of the alimurgic plants *Taraxacum officinale*, *Papaver rhoeas* and *Urtica dioica* by combined NMR and GC-MS analysis

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Phytoalimurgy is a term that derives from Greek and Latin and is a combination of the words φυτόν (phytón), which means plant, and alimenta urgentia, which indicates food that one can resort to in case of urgency and necessity, referring to the edible flora that can be used in cases of famine or wars. Nowadays, the lack of produce from agriculture is fortunately no longer a problem, but phytoalimurgy is still a valid part of the applied botany. In fact, today people are becoming more and more interested in foraging for wild plants. This trend is driven by many factors, such as: i) the desire to enrich our diet with healthy food, avoiding pesticides and pollution; ii) the desire to combine outdoor activity, with picking edible plants; iii) the preservation of ancient knowledge and traditions. Furthermore, nourishing our bodies with these plants can provide a wide variety of phytochemicals, ranging from important nutrients our modern diet is often lacking to numerous active constituents that can act on different ailments.

This metabolomic study aimed at evaluating the chemical composition of three cosmopolitan and spontaneous herbaceous plants, namely common dandelion (*Taraxacum officinale*), corn poppy (*Papaver rhoeas*) and stinging nettle (*Urtica dioica*). By involving both NMR and GC-MS techniques, it was possible to detect a wide variety of both primary and secondary metabolites, which possess different nutritional and health benefits.